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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Pacific Gas and Electric Company (U 39-E), for approval of the 2006 – 2008 Energy Efficiency Programs and Budget.	Application 05-06-004 (Filed June 1, 2005)
Southern California Gas Company (U 904-G), for approval of Natural Gas Energy Efficiency Programs and Budgets for Years 2006 through 2008.	Application 05-06-011 (Filed June 1, 2005)
Southern California Edison Company (U 338-E), for approval of its 2006 – 2008 Energy Efficiency Program Plans and associated Public Goods Charge and Procurement Funding Requests.	Application 05-06-015 (Filed June 2, 2005)
San Diego Gas & Electric Company (U 902-E), for approval of Electric and Natural Gas Energy Efficiency Programs and Budgets for Years 2006 through 2008.	Application 05-06-016 (Filed June 2, 2005)

COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES AND THE UTILITY REFORM NETWORK ON THE UTILITIES' COMPLIANCE SUBMITTALS

I. INTRODUCTION

The Commission's Decision (D.) 06-06-063 addressed the "2006 Update" of avoided costs for energy efficiency resources and other issues related to the valuation of energy efficiency resources. Specifically, the Commission directed Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric Company (SDG&E), Southern California Edison Company (SCE) and Southern California Gas Company (SoCalGas) (collectively, the utilities) to:

(i) update the E3 calculators to reflect the time of use (TOU)-averaging correction factors, the updated natural gas and electric avoided costs based on recent gas price forecasts, and the adopted common definition for peak kW reductions;

(ii) undertake a Load Shape Update Initiative to assist Energy Division in identifying problems in existing load shape data and in establishing priorities and study scopes for load shape improvements;

(iii) correct the anomalies with respect to the treatment of costs in the total resource cost (TRC) test to ensure that the TRC capture all participant and non-participant costs of the program; and

(iv) explore potential improvements to the quality control and oversight of data assumptions and inputs used to perform cost-effectiveness in the future.

Based on their review of the utilities' compliance submission filed on September 8, 2006, DRA and TURN offer these joint comments summarized as follows:[1]

1. The utilities inconsistently treat direct install incentives within the E3 workbook;
2. The utilities have not fully discussed the data sources and basis for the non-DEER (Database of Energy Efficiency Resources) energy and demand estimates with their program advisory groups.
3. Future improvements to the E3 calculator to ensure greater quality control should be led by Joint Staff, not the utilities.
4. Calculation of net benefits for program planning and shareholder earnings performance basis should be the job of the Commission, not the utilities.

DRA/TURN initially observe that the progress in resolving these matters to date is disappointing at best. There have been numerous workshops and meetings in the various dockets pertaining to the IOU's 2006-2008 portfolio design and implementation, Joint Staff development of EM&V protocols, and the 2006 Avoided Cost / E3 Calculator

[1] Ordering Paragraph 17(b) at page 99 of D.06-06-063 sets forth both the compliance filing requirement and the procedural schedule for submitting replies in this docket. DRA and TURN await the Load Shape Update Initiative (LSUI) draft report due October 1, 2006 to offer comments on this aspect of the 2006 Update per D.06-06-063, Interim Order 12.

Update process, in which the same matters and issues have been discussed again and again with little if any substantive progress or resolution.

The issues of the quality assurance and control of the underlying data and inputs, as well as correct and consistent execution of the E3 calculator algorithms, have been before the Commission in several forums for over a year now.[2] The following text, based on TecMarket Works' July 1, 2005 report to ED on the IOUs' 2006-08 Energy Efficiency portfolios, epitomizes these issues. Items 4 and 11 from the report's "Summary of Results" state:

> 4. The majority of the electric and gas savings included in the statewide portfolio are non-DEER, IOU-calculated estimates. The portfolios are lacking complete measure estimate documentation, or the documentation provided does not provide a clear path for replicating the estimate for a significant number of these measures. This condition typically applies to measures that are difficult to estimate. However, all IOU submissions should contain a complete presentation of the calculation approach used for each non-DEER-based measure included in their portfolios. As a result, for some measures we are unsure if the impact projections are reasonable because the documentation was not clearly presented or was not presented early enough to allow a complete review. <u>The CPUC should require an IOU-specific Energy Savings Dictionary with every filing, clearly presenting transparent and fully documented calculation formulas and input data and data sources so that CPUC staff can easily replicate and assess the calculations provided.</u>
>
> 11. <u>There needs to an agreement and consistency of the calculation approach used in the E3 Calculators and the California Standard Practice Manual. At this time they do not appear to be consistent</u>**.** Using the Policy Manual as a guide, we would not expect to see the PAC as a larger number than the TRC. Upon review of this issue, it appears that the condition is E3-based and is associated with program conditions that occur when an incentive equals the full cost of the measure, such as when a refrigerator is given away at no cost to the participant or when a program is offering incentives above the incremental cost of the measure.[3]

[2] Reference TecMarket Works July 1, 2005 report to the CPUC ED "Final Report: The California 2006-2008 Energy Efficiency Portfolio: A Review of Early IOU Planning Documents". Also, D.05-09-043 dated September 22, 2005 Interim Opinion: Energy Efficiency Portfolio Plans and Program Funding Levels for 2006-2008 – Phase 1 Issues."

[3] <u>Id</u>., pp. 8 and 9, emphasis added.

II. DISCUSSION

A. The utilities inconsistently treat direct install incentives within the E3 workbook.

Ordering Paragraph (OP) 16 in D.06-06-063 requires the utilities to update their E3 calculators to reflect:

(i) the adopted definition of peak kW

(ii) the updated natural gas and electric generation avoided costs;

(iii) the adopted TOU-averaging factors for a/c installations'

(iv) a method for identifying the a/c unit installations and the associated peak savings to which the adopted correction factors will apply;

(v) redesign of the calculator to separate inputs and outputs from the calculator engine;

(vi) refinements to the calculator that can be made relatively quickly to flag or correct potential input inconsistencies with respect to the SPM tests of cost effectiveness.

The utilities held a statewide Program Advisory Group (PAG) meeting on August 9, 2006 to provide an update on the latest E3 calculator revisions and to present an overview of the workpapers used to provide ex-ante savings data for non-DEER measures. At the meeting, DRA noted that no modifications were made to address the treatment of direct install costs in the TRC test, except for the flagging and a count of measures with the combined financial incentive (including rebate, direct install labor and direct install material) exceeding the gross incremental measure costs (IMC). There were no further changes made to ensure that this differential between the financial incentive and the gross IMC is not dropped out of the TRC cost calculation. DRA followed up with a conference call with the utilities on August 28 and requested that the utilities modify the input to the E3 calculators for direct install programs to comply with the decision directive.

DRA did a spot check of the utilities' E3 calculator workbooks as part of their September 8 compliance submission, and noted the following input consistencies:[4]

PG&E	• [Input] worksheet for each program's E3 workbook do not show formulae. • In the E3 workbooks, the Gross IMCs at the measure level workbooks generally reflect the sum of financial incentives.
SCE	• [Input] worksheet for each program's E3 workbook do not show formulae. • For direct install programs, all direct installation costs (labor and material) were re-categorized as "Other Administrative Costs" at the program level. As a "lump sum" input, there is no way for a reviewer to verify that the costs are reasonable. Also, this is inconsistent with the directions given in "E3 Calculator TechMemo 3b2.doc". Specifically, the TechMemo instructs users to provide direct install labor and material costs for each line item, and the user input for gross incremental measure costs should reflect the sum of direct install labor and material costs.
SDG&E	• The E3 workbooks for programs include all calculation sheets in addition to the input and output sheets, with each workbook size exceeding 20 MB. • The "Small Business Super Saver" program offers a form of direct install to small businesses (under 20kW) by offering rebates to contractors; however all measures within the program workbook are listed with rebate $/unit rather than direct install incentives. The program workbook lists 42 measures (with duplicate measures in different target sectors) out of 429 measures with financial incentives per unit exceeding the gross IMC per unit. • The E3 workbook for "City of San Diego Partnership" lists 9 measures with zero financial incentive $/unit and non-zero IMC per unit. Per program description provided in the program report, the partnership program provides rebates to developers to install energy efficiency measures in their condo conversion units. In other words, there should be a non-zero input in the financial incentive column. The end result of zero-ing out the financial incentive column is underestimating the actual PAC cost.

[4] The compliance submission includes one E3 calculator workbook for each utility program, regardless of whether it is a utility, third-party or partnership program. For PG&E, there were 64 E3 workbooks; for SCE, there were 56 E3 workbooks; for SDG&E, there were 44 E3 workbooks; for SoCalGas, there were 41 E3 workbooks.

SoCalGas	• The E3 workbooks for programs include all calculation sheets in addition to the input and output sheets, with each workbook size exceeding 20 MB. • The E3 workbook for "Energy Coalition Direct Install program" lists only rebates, not direct install incentives, under financial incentives. The title of the workbook, however, suggests that this is a direct install program.

Additionally, across the utilities, there are many service programs that list implementation direct install incentives as rebates. For example, utilities typically pay third-party contractors to perform heating, ventilation, air conditioning (HVAC) refrigerant charge and airflow as a no-cost service to the customer, but the incentive payments to contractors are classified as rebate and not direct install incentive (e.g. SCE's Comprehensive Packaged Air Conditioning Systems Program, SDGE's third-party HVAC Training, Installation and Maintenance Program.)

DRA/TURN recommend that the utilities first identify programs that employ direct install strategy and resubmit the E3 calculators to Energy Division by October 13 for these programs with inputs consistent with the directions given in Ordering Paragraph 15 of D.06-06-063, which requires:

> "all participant and non-participant costs shall be fully reflected in the TRC test with the limited execution of dollar benefits such as rebates or rate incentives (monthly bill credits) to the participating customer. Those dollar benefits shall be treated as a transfer payment and excluded on both the benefit and cost side of the TRC equation, as currently directed under the SPM. However, they will be included in the Program Administrator Costs (PAC) test. If the incentive is to offset a specific participant cost, as in a rebate-type incentive, the full customer cost (before the rebate) must be included in the TRC test as a participant cost. In situations where a direct install program does not bill or collect from the customer for any portion of the costs, then all costs should appear as program administrator costs in both the PAC and TRC tests."[5]

5. D.06-06-063, *mimeo*, OP 15, pp. 97-98.

Moreover, any direct install incentives or customer rebates must be provided at the measure level rather than aggregated as a lump-sum at the program level in order to allow program auditors and/or EM&V contractors to carry out their work.

B. The utilities have not fully discussed the data sources and basis for the non-DEER energy and demand estimates with their program advisory groups.

Ordering Paragraph 5 of D.06-06-063 directed the utilities to discuss, among other data issues, the data sources and basis for the non-DEER energy and demand estimates with their program advisory and peer review groups in a statewide meeting. At the August 9 Statewide PAG meeting, each of the utilities explained the process of accessing the work papers used to support non-DEER savings assumptions. At the time of the meeting, PG&E was still in the process of compiling workpapers for non-DEER savings assumptions, SCE provided the website for downloading the workpapers (83 files, 58 MB of documents) and briefly described the methodology of estimating the energy savings for a single measure, SDG&E and SoCalGas presented the organization of their workpapers and the top three contributing non-DEER measures for kWh, kW and therm savings.

Given the sheer volumes of workpapers and the technical nature of savings estimation methodology, it would be difficult for the utilities to comply fully with Ordering Paragragh 5. Members of the utilities' Program Advisory Group may also have varying level of interest and technical background to understand the non-DEER savings estimation methodologies. DRA/TURN recommend that Energy Division (ED), or its designated contractor, should work with the utilities in future program planning cycles to ensure that the non-DEER savings assumptions are reasonable. As part of this process, ED and the utilities should also look into the potential interactive effects between measures. As an example, most internal lighting efficiency improvements (which replace incandescent light bulbs with more efficient compact florescent bulbs that emit less heat) reduce electric cooling load during the summer months, but increase gas heating load during the winter. The net effect on energy usage is therefore a reduction in electricity use but an increase in natural gas use. While this is not currently captured by the DEER savings estimates, the impacts will ultimately be accounted for in future EM&V studies. The utilities should use more conservative savings estimates in their program planning process in anticipation of ex-post savings results.

C. Future improvements to the E3 calculator to ensure greater quality control should be led by Joint Staff, not the utilities.

Quality control (QC) is a huge issue given the number of workbooks (for the four utilities combined, there were 205 E3 workbooks in the compliance submission). To ensure that the right input assumptions are used for each entry within each workbook is an extremely tedious task. DRA/TURN note that for SCE's "Business Incentive & Services Program," the input for demand reduction (kW/unit) for all Screw-in CFL, Hardwired Fluorescent Fixture and Exit Sign measures misapplied the DEER energy reduction figure (kWh/unit) (see Attachment 1). The net result is an overestimate of per unit kW savings by a minimum factor of 6 times (DEER kW reduction for Screw-in CFLs range between 20 to 60 Watt per unit; SCE's input for kW reduction for these measure range between 130 to 480 Watt per unit). Also within SCE's "Nonresidential Direct Installations" workbook, there were 53 measures out of 499 measures with a blank field under the "DEER RunID" column (should list either the DEER RunID or Workpapers). Similarly, SDGE's "Small Business Super Saver" program has 317 out of total 429 measures with a blank field for "DEER RunID." PG&E's "Mass Market" program workbook uses a Net-to-Gross (NTG) of 0.54 instead of 0.35 for refrigerator recycling; its "SF Local Government Partnership" program workbook uses NTG of 0.8 for refrigerator recycling. It is obvious that quality control needs to be built into the E3 calculators to minimize the amount of manual intervention for data correction. Ordering Paragraph 18 in D.06-06-063 placed this responsibility with the utilities, directing them to lead ongoing workshop discussions with interested parties to explore quality control approaches, as well as to provide a summary report on consensus and non-consensus recommendations to the Commission by December 15, 2006.

Given the inconsistencies among the utilities in the treatment of direct install incentives and the low level of interest expressed by the attending PAG members at the August 9 statewide PAG meeting in QC issues, DRA/TURN are concerned that the Commission's goal of achieving assuring "greater quality control over E3 calculator inputs on an ongoing basis" is unlikely to be met.. Furthermore, the utilities appear to be faced with the conflict of using input data for cost effectiveness calculations that may lower their potential EE shareholder earnings versus continuing the practice of using exaggerated ex-ante savings assumptions that will allow for higher interim earnings claim with potentially no earnings true-up after the completion of the load impact studies. DRA/TURN recommends that Joint Staff, or its designated contractor, take the lead in future refinements to the E3 calculators that include quality control over the calculator inputs. This assignment of responsibility would also be consistent with the Quality Assurance function assigned to Joint Staff in D.05-01-055.

D. Calculation of net benefits should be the job of the Commission, not the utilities.

DRA and TURN have previously pointed out the inherent flaws in the projected energy efficiency savings[6] Flaws in the projected energy efficiency savings necessarily mean that the underlying calculations of net benefits are also erroneous. The net benefits calculations are in turn used to determine the performance basis of the EE shareholder incentive mechanism currently under consideration by the Commission in R.06-04-010.

The Commission's current decisions and policies have not resulted in an effective strategy for accurately valuing energy efficiency based on the utilities' portfolio plans. The IOUs are playing a "pump up the savings and net benefits" game as would any performance contractor, since their shareholder incentives will depend on the total net benefits.

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[6] See "2006 Update Phase: Pre-Workshop Comments of TURN on the Draft E3 Report" dated March 9, 2006, page 2. "At some point, the lack of quality in the underlying data must be recognized for what it is, including an understanding of the attendant reliability problems in the macro-level calculations of energy efficiency savings that rely on this vast detail of data."

For the 2006-2008 EE portfolios, the Commission has approved the program plans based on the fact that the portfolio appears cost effective, and the EE shareholder incentive mechanism will be put in place to motivate the IOUs to meet their energy savings goals by maximizing net benefits. TURN's September 8, 2005 Post-Workshop Comments on the Design of an EE Shareholder Mechanism, Response to Question (e), pages 21 and 22 also address this matter:

> "TURN strongly opposes proposals to base shareholder earnings purely on *ex ante* estimates with no subsequent true-up based on *ex post* measurement and verification. There are numerous indications that the projected net benefits of the 2006-2008 portfolios are overstated in terms of both savings and costs. This may explain why the IOUs have taken the position that the shareholder earnings progress payments should be based on ex ante savings assumptions that are not subject to ex post adjustments, and why the IOUs have been so recalcitrant to improve the quality assurance of the underlying data and assumptions.
>
> If net benefits are the measure (or performance basis) for shareholder earnings then the Commission should ensure the accuracy of the numbers as much as possible through the adopted EM&V process. Current net benefits estimates have numerous problems, including (1) program costs continue to be understated (i.e. not all direct install costs are captured and non-transfer payments are being classified as rebates -- such as payments to the IOU contractors for services including upstream manufacturer buy downs); (2) measure costs are being understated as in early retirement programs where incremental measure costs (IMC) are used instead of the full cost of the new higher efficiency equipment with savings counted in full;15 and (3) savings are overstated (i.e. failure to reflect the associated increase in gas use associated with all appropriate lighting measures that reduce cooling load but increase heating load, use of full savings for replacement on burnout, use of overstated operating hours (EULs)16, and unrealistic free ridership or NTG assumptions17). These are items that the Commission has identified in D 06-06-063 and has directed the utilities to correct, but the stakeholders have to date been unable to get the IOUs to make these corrections.

> The Commission should authorize the Energy Division to perform independent calculations of net savings for purposes of earnings calculations. Because the proposed PEB-shared savings shareholder earnings mechanism essentially puts the Commission into the role of 'performance contract' with the IOUs, the Commission must get the contract terms relating to performance correct."

To ensure that there is no "tweaking" the numbers to inflate shareholder incentives, DRA and TURN respectfully recommend that the Commission, not the IOUs, take up the responsibility of calculating net benefits for the purpose of earnings calculations.

III. CONCLUSION

These matters of quality assurance and control of the underlying data and inputs, as well as correct and consistent execution of the E3 calculator algorithms, are either the bedrock or quicksand on which California's "energy efficiency and the first loading order resource" resides. There have been more than sufficient policy analyses and discussions, and regulatory decisions, to resolve these matters. It is time for the tasks to be completed, in full, and in good faith, if the 2006-2008 EE portfolios and associated processes are to continue. In light of the utilities' overarching negative incentive to rectify data reliability problems (given the pending net benefits performance basis for shareholder earnings) DRA and TURN have little confidence that this will occur without direct Commission intervention. DRA/TURN therefore recommend that the Commission consider a more active oversight role by Joint Staff in ensuring the quality control of data and calculations supporting energy efficiency programs.

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Respectfully submitted on behalf of
TURN and DRA,

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September 22, 2006

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of "**COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES AND THE UTILITY REFORM NETWORK ON THE UTILITIES' COMPLIANCE SUBMITTALS"** in **A.05-06-004 et al.** by using the following service:

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Executed in San Francisco, California, on the **22nd** day of **September, 2006**.

/s/ REBECCA ROJO

REBECCA ROJO

N O T I C E

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